AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims

1. (Withdrawn) An assay device, comprising an array having both a planar surface and a configuration of reaction loci thereon, with each of said loci consisting essentially of at least one peptide or protein at least substantially suspended or dissolved in a hydrophilic carrier for said peptide or protein.

2. (Withdrawn) The assay device of claim 1, wherein said planar surface further comprises a nonporous chip or slide.

3. (Withdrawn) The assay device of claim 1, wherein said nonporous chip or slide includes a component selected from the group consisting of silicon; glass; silica; quartz; polystyrene and polyalkylene polymer.

4. (Withdrawn) The assay device of claim 1, wherein said configuration of reaction loci is that of a rectangular grid.

5. (Withdrawn) The assay device of claim 1, wherein said hydrophilic carrier is selected from the group consisting of saccharides, aklylene diols and alkylene polyols and said reaction loci measure between about 10 and 250 micrometers.

6. (Withdrawn) The assay device of claim 1, wherein said hydrophilic carrier is selected from the group consisting of dextranl; pluronic acid; carbohydrates of the

pentose; ribose or hexose families; polysaccharides; polyethylene glycol polymer; 1,2-ethanediol; 2,3-butanediol and 1,2,3-propanetriol (glycerol), and said reaction loci measure between about 50 and 100 micrometers.

7. (Withdrawn) The assay device of claim 1, wherein said reaction loci further comprises enzyme reaction components selected from the group consisting of cofactors; inhibitors; antibodies; activators and buffer elements.

8. (Withdrawn) The assay device of claim 1, wherein said reaction loci includes a biological molecule or fraction selected from the group consisting of proteins; peptides; nucleic acids; enzymes; antibodies; lipids; cell lysates and vesicles.

9. (Withdrawn) The assay device of claim 1, wherein said loci further comprises fluorogenic substrates, chromogenic substrates or other reporter substrates.

10. (Currently Amended) An assay system, comprising:

a computer and a set of operating instructions resident in computer software of the computer for operating:[[;]]

a ~~first~~ set of ~~computer-controlled~~ reactant dot ~~applicators~~ applicator pins;

a ~~second~~[[,]] separate ~~computer-controlled~~ device for biological sample aerosol mist generation;

~~a computer-controlled~~ an xy positioner operatively connected to the dot applicator pins;

~~a computer and operating software; and~~

a chamber within the device for biological sample aerosol mist generation for control of biological samples,

wherein ~~the first set of computer-controlled reactant dot applicators creates a plurality of reaction spots~~ said dots have a diameter ranging from 10 microns to 100 microns and have one or more constituents therein, wherein ~~to which~~ the aerosolized biological sample mist droplets are applied simultaneously by said ~~second~~[[,]] separate ~~computer-controlled~~ device for sample aerosol generation, without forming a wetting film, for computer-enhanced assay of any reaction between the sample mist droplets and said constituents, and wherein said dots are not covalently bound to a substrate.

11. (Currently Amended) The assay system of claim 10, wherein said system further comprises ~~contains~~ one or more subcomponents in said device for biological sample aerosol mist generation and wherein said operating instructions send signals, via serial or parallel port, to start, to stop, to establish operating set points and to control said one or more subcomponents of the device, whereby each of said one or more subcomponents may have an internal or external standing controller or driver.

12. (Currently Amended) The assay system of claim 11, wherein said one or more subcomponents further comprises at least one device selected from the group consisting of multiple positive displacement microsyringe pumps, pressure nozzles, ultrasonic nozzles, ink-jet printheads, position-actuated ink-jet printheads, surface-actuated ink-jet printheads, fluid-contacting or fluid-noncontacting ultrasound transducers; gas flow meter[[/]] and controller; ~~xy positioner system~~ and exhaust[[/]] and filtration fan.

13. (Currently Amended) The assay system of claim 10, wherein ~~said~~ microsyringes hold 1.0 microliters to 1000 μL of biological sample.

14. (Currently Amended) The assay system of claim ~~10~~13, wherein said microsyringes deliver samples at a constant flow rate.

15. (Original) The assay system of claim 10, wherein said device for aerosol generation is an ultrasonic nebulizer.

16. (Withdrawn) The method for assaying a biological sample using a peptide or protein chip according to claim 1, comprising:

a) selecting a planar surface;

b) selecting a hydrophilic carrier and arraying a plurality of substrates in discrete reaction loci within aliquots of said hydrophilic carrier on said planar surface;

c) applying an aerosolized or misted sample having a sample droplet size between about 5 and 15 micrometers to the array formed in step (b); and

d) detecting any reaction between the sample and the plurality of substrates.

17. (Withdrawn) A method for assaying a biological sample using a peptide or protein chip according to claim 1, comprising applying an aerosolized or misted sample onto said configuration of reaction loci and detecting any reaction between any constituents of the sample and said peptide or protein contained within said configuration of reaction loci.

18. (Withdrawn) A method for assaying a biological sample using a peptide or protein chip according to claim 1, comprising applying an aerosolized or misted sample onto said configuration of reaction loci using an ultrasonic nebulizer and detecting any reaction between any constituents of the sample and said peptide or protein contained within said configuration of reaction loci.